



# Release Notes for Catalyst 2960L and Catalyst 2960L-Smart Managed Switches, Cisco IOS Release 15.2(7)E and Later

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This release note describes the features and caveats for the Cisco IOS Release 15.2(7)E software on the Catalyst 2960L (C2960L) and Catalyst 2960L-Smart Managed (C2960L-SM) switches.

Verify that these release notes are correct for your switch:

- If you are installing a new switch, see the Cisco IOS release label on the rear panel of the switch.
- If your switch is on, use the **show version** privileged EXEC command. See the “[Upgrading the Switch Software](#)” section on page 4.
- If you are upgrading to a new release, see the software upgrade filename for the software version. See the “[Software Image](#)” section on page 4.

You can download the switch software from this site (registered Cisco.com users with a login password):

<http://www.cisco.com/download/navigator.html>

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## Introduction

The Catalyst 2960L and Catalyst 2960L-SM switches are Ethernet switches to which you can connect devices such as Cisco IP Phones, Cisco Wireless Access Points, workstations, and other network devices such as servers, routers, and other switches.

## Supported Hardware

### Switch Models

*Table 1 Catalyst 2960L Switch Models*

Switch Model	Cisco IOS Image	Description
WS-C2960L-8TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-8PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-16TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-16PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-24TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-24PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-48TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-48PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots; with fan
WS-C2960L-24TQ-LL	LAN Lite	Cisco Catalyst 2960-L switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-24PQ-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-48TQ-LL	LAN Lite	Cisco Catalyst 2960L switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-48PQ-LL	LAN Lite	Cisco Catalyst 2960L PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots; with fan

Table 2 Catalyst 2960L-Smart Managed Switch Models

Switch Model	Description
WS-C2960L-SM-8TS	Cisco Catalyst 2960L Smart Managed switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-8PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-16TS	Cisco Catalyst 2960L Smart Managed switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-16PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-24TS	Cisco Catalyst 2960L Smart Managed switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-24PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-48TS	Cisco Catalyst 2960L Smart Managed switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-48PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots, with fan
WS-C2960L-SM-24TQ	Cisco Catalyst 2960L Smart Managed switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-24PQ	Cisco Catalyst 2960L Smart Managed PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-48TQ	Cisco Catalyst 2960L Smart Managed switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-48PQ	Cisco Catalyst 2960L Smart Managed PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots, with fan

## Optics Modules

The Catalyst 2960L and Catalyst 2960L-SM switches support a wide range of optics. Because the list of supported optics is updated on a regular basis, consult the tables at this URL for the latest SFP+ and SFP module compatibility information:

[http://www.cisco.com/c/en/us/td/docs/interfaces\\_modules/transceiver\\_modules/compatibility/matrix/G\\_E\\_Tx\\_Matrix.html](http://www.cisco.com/c/en/us/td/docs/interfaces_modules/transceiver_modules/compatibility/matrix/G_E_Tx_Matrix.html)

## Device Manager System Requirements

The following table lists the system requirements for a PC running Cisco Configuration Professional for Catalyst (CPC), including Web browser versions.

Table 3 System Requirements

System Component	Requirement
Operating System	Any of the following: <ul style="list-style-type: none"> <li>• Mac OS 10.9.5</li> <li>• Microsoft Windows Version 7</li> </ul>
Browser	Cisco CPC can be used with the following browsers: <ul style="list-style-type: none"> <li>• Google Chrome 52 and later</li> <li>• Mozilla Firefox 48 and later</li> <li>• Apple Safari 9 and later</li> <li>• Internet Explorer 11 and later</li> </ul>
Screen Resolution	1280 X 800 pixels or higher

# Upgrading the Switch Software

## Finding the Software Version and Feature Set

The Cisco IOS image is stored in a directory that is named with the Cisco IOS release number. The files necessary for web management are contained in a subdirectory. The image is stored on the system board flash device (flash:).

You can use the **show version** privileged EXEC command to see the software version that is running on your switch.



**Note**

Although the **show version** output always shows the software image running on the switch, the model name shown at the end of this display is the factory configuration and does not change if you upgrade the software license.

You can also use the **dir filesystem:** privileged EXEC command to see the directory names of other software images that you might have stored in flash memory.

## Software Image

If you have a service support contract and order a software license or if you order a switch, you receive the universal software image and a specific software license.

Table 4 Software Image for Cisco Catalyst 2960L Switches

Image	Filename	Description
Universal image	c2960l-universalk9-mz.152-7.E.bin	LAN Lite image.
Universal image	c2960l-universalk9-mz.152-7.E.tar	LAN Lite cryptographic image with Device Manager.

**Table 5** *Software Image for Cisco Catalyst 2960L-Smart Managed Switches*

Image	Filename	Description
Universal image	c2960l-universalk9-mz.152-7.E.tar	LAN Lite cryptographic image with Device Manager.

## Limitations and Restrictions

- There is limit of 384 ACEs for MAC/IPv4 and 256 ACEs for IPv6. For some scenarios, one ACE entry can lead to 2 TCAM entries. For IPv6, 512 TCAM entries are used per ASIC.
- Extension header match options for IPv6 ACLs are not supported on the switch. Also, ACLs not supported in the out direction.
- Storm control for multicast with PPS and % may not work.

## Software Compatibility Matrix

ISE	CPC
2.3	1.4

## New Software Features

### Features Introduced in Cisco IOS Release 15.2(7)E for C2960L-SM Switches

- Improvements to Link Aggregation Control Protocol (LACP) configuration on ports and device using priority settings.
- Along with IPv4, you can now configure through IPv6 address; with support for IPv6 static routing.
- Support for VTP pruning to eliminate or prune unnecessary traffic.
- Enhancements to STP with added fields for Forward Time, Hello Time, Max Age, Transmit Hold-Count, STP Port Types, Edge-BPDU Filter, Edge-BPDU Guard and STP Loopguard.
- Enhancements to Simple Network Management Protocol (SNMP) for improved management and monitoring of network devices.
- Cluster option has been disabled to prevent network vulnerabilities.

# Service and Support

## Information About Caveats

If you need information about a specific caveat that does not appear in these release notes, you can use the Cisco Bug Toolkit to find caveats of any severity. Click this URL to browse to the Bug Toolkit:

<http://tools.cisco.com/Support/BugToolKit/>

If you request a defect that cannot be displayed, the defect number might not exist, the defect might not yet have a customer-visible description, or the defect might be marked Cisco Confidential.

## Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website at this URL:

<http://www.cisco.com/en/US/support/index.html>

Click **Product Support** > **Switches**. Choose your product and click **Troubleshooting** to find information on the problem you are experiencing.

## Caveats

- [Cisco Bug Search Tool, page 6](#)
- [Open Caveats, page 7](#)
- [Resolved Caveats, page 7](#)
- [Related Documentation, page 7](#)

## Cisco Bug Search Tool

The Bug Search Tool (BST), which is the online successor to Bug Toolkit, is designed to improve the effectiveness in network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to provide external and internal bug views for the search input.

To view the details of a caveat listed in this document:

1. Access the BST (use your Cisco user ID and password) at <https://tools.cisco.com/bugsearch/>.
2. Enter the bug ID in the **Search For:** field.

## Open Caveats

*Table 6 Open Caveats in Cisco IOS Release 15.2(7)E for Catalyst 2960L Switches*

Bug ID	Headline
<a href="#">CSCvo81439</a>	2960L: CCPC may show an empty client list when a PC/Laptop is connected.

## Resolved Caveats

### Caveats Resolved in Cisco IOS Release 15.2(7)E for Catalyst 2960L Switches

*Table 7 Caveats Resolved in Cisco IOS Release 15.2(7)E for Catalyst 2960L Switches*

Bug ID	Headline
<a href="#">CSCvn21014</a>	DHCP Snooping trust is enabled on CCP when switch interfaces have snooping rate limiter.
<a href="#">CSCvo35537</a>	C2960-L reports "Cisco {{platform}} {{deviceDescription}} {{version}}" in the Web GUI.

## Related Documentation

- Catalyst 2960-L switch documentation at these URLs:  
<http://www.cisco.com/go/2960l>
- Cisco SFP and SFP+ modules documentation, including compatibility matrices at this URL:  
[http://www.cisco.com/en/US/products/hw/modules/ps5455/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/modules/ps5455/tsd_products_support_series_home.html)
- Cisco Validated Designs documents at this URL:  
<http://www.cisco.com/go/designzone>

## Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at [Cisco Profile Manager](#).
- To get the business impact you're looking for with the technologies that matter, visit [Cisco Services](#).
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- To obtain general networking, training, and certification titles, visit [Cisco Press](#).
- To find warranty information for a specific product or product family, access [Cisco Warranty Finder](#).

## Cisco Bug Search Tool

[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

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This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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